

temperature of said solution is between 16°C and 99°C.

21. A method as recited in claim 20, wherein the temperature of said solution is between 20°C and 90°C.

22. A method as recited in claim 21, wherein the 5 temperature of said solution is between 60°C and 80°C.

23. A method as recited in claim 1, wherein the water is a saturated water vapor.

24. A method as recited in claim 1, wherein the ozone concentration in the mixture is less than 10% molar 10 weight of said mixture.

25. A method as recited in claim 1, wherein the temperature of said mixture is below 150°C but higher than the temperature of said substrate.

26. A method as recited in claim 1, wherein said 15 substrate is a silicon wafer.

27. A method for removing organic contaminants from a substrate comprising the steps of:

holding said substrate in a tank; and
filling said tank with a fluid comprising
20 water, ozone and an additive acting as a scavenger, and
wherein the proportion of said additive in said fluid is less
than 1% molar weight of said fluid.

28. The method as recited in claim 27 wherein said temperature of said fluid is below 150°C but higher than the 25 temperature of said substrate.

29. A method for removing contaminants from a silicon substrate comprising the steps:

holding said substrate in a tank;
filling said tank with a fluid mixture

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comprising water and ozone to thereby achieve an oxide growth on said substrate;

removing the oxide; and
drying the silicon wafer.

5 30. The method as recited in claim 29 wherein said fluid mixture comprises at least one fluid selected from the group consisting of a gas, a liquid, steam, a vapor and a mixture thereof.

10 31. The method as recited in claim 29 further comprising the step of growing a thin passivating oxide layer on said silicon wafer prior to the step of drying said wafer.

32. The method as recited in claim 31 wherein said step of growing said thin passivating oxide layer is executed in a mixture of dilute H₂O₂ and ozone.

15 33. The method as recited in claim 29 wherein the step of removing the oxide is executed in a solution of dilute HF with or without additives such as HCl.

34. The method as recited in claim 29 wherein said fluid mixture is further comprising an additive acting as a 20 scavenger.

35. The method as recited in claim 29 wherein the fluid further comprises at least one acid selected from the group consisting of acetic acid and nitric acid.

36. A method for removing contaminants from a 25 silicon substrate comprising the steps:

holding said substrate in tank;
filling said tank with a gaseous mixture comprising water and ozone to thereby achieve an oxide growth on said substrate;

30 removing the oxide; and